BEFORE THE DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION OF THE STATE OF MONTANA

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IN THE MATTER OF APPLICATION FOR BENEFICIAL WATER USE PERMIT NO. 41S 30005803 BY WILLIAM AND WENDY LEININGER	))))	**PROPOSAL FOR DECISION**

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Pursuant to the Montana Water Use Act and to the contested case provisions of the Montana Administrative Procedure Act, and after notice required by Mont. Code Ann. §85-2-307, a hearing was held on August 11, 2005, in Stanford, Montana, to determine whether a beneficial water use permit should be issued to William and Wendy Leininger, hereinafter referred to as "Applicant" for the above application under the criteria set forth in Mont. Code Ann. §85-2-311.

APPEARANCES

Applicant appeared at the hearing by and through counsel, John Bloomquist. William Leininger; Joel Adams, HydroSolutions, Inc., testified for the Applicant.

Objector Victor Thomson appeared at the hearing by and through counsel James Hubble. Victor Thomson testified for Objector Thomson. Larry Jenkins testified as a rebuttal witness for Objector Thomson (Thomson).

Objector Gilkey Farms, Inc. appeared at the hearing by and through counsel John Tietz. Mark Gilkey testified for Objector Gilkey Farms, Inc. (Gilkey).

Staff Expert Russell Levens, Hydrogeologist for the Department of Natural Resources and Conservation (DNRC or Department) was called to testify by Objector Gilkey Farms.

EXHIBITS

Both Applicant and Objectors offered exhibits for the record. The exhibits are admitted into the record to the extent noted below.

Applicant offered four exhibits for the record. The Hearing Examiner accepted and admitted into evidence Applicant's Exhibit Nos. A1-A4.

Applicant's Exhibit A1 is a three-page copy of a November 1, 2003, letter from William and Wendy Leininger to Andy Brummond.

Applicant's Exhibit A2 is a copy of a two-page memorandum dated September 23, 2003, from Russell Levens to Andy Brummond Re: Water Right Application 30005803-41S.

Applicant's Exhibit A3 consists of a copy of an April 23, 2004, two-page letter from William and Wendy Leininger to Gary Knudson, Delta Engineering, and two pages of well test data for the Leininger and Gilkey wells prepared by William and Wendy Leininger.

Applicant's Exhibit A4 is a copy of *Revised Well Test Analysis and Interpretation, Leininger Well, Fergus County, Montana* (Revised July 7, 2005) consisting of eighteen pages and prepared by HydroSolutions, Inc.

Objector Gilkey Farms, Inc., offered three exhibits for the record. The Hearing Examiner accepted and admitted into evidence Objector Gilkey Farms, Inc.'s Exhibit Nos. OG1-OG3.

Objector's Exhibit OG1 consists of a copy of a three page letter dated May 21, 2004, from Gary Knudson, Delta Engineering, to William Leininger, and three pages of Delta Engineering documents. One page is labeled “Pump Test Form”, Project Bill Leininger; one page is “Time Drawdown Chart – Leininger Well”; and one page is labeled “Time Drawdown Chart – Observation - Gilkey well.

Objector's Exhibit OG2 is a copy of a June 9, 2004, two-page memorandum from Russell Levens to Andy Brummond with an attached distance – drawdown graph Re: Water Right Application 300096 5-41S.

Objector's Exhibit OG3 consists of six pages of calendar pages for: August 2003, September 2003, April 2004, January 2005, March 2005, and May 2005. These pages have handwritten entries regarding well information by the Gilkeys.

Objector Thomson offered two exhibits for the record. The Hearing Examiner accepted and admitted into evidence Objector Thomson's Exhibit Nos. OT1-OT2.

Objector's Exhibit OT1 consists of a fifteen-page copy of a Gamma Ray – Neutron Log for “Company - Victor Thomson” and “Well – Quasar #1” dated August 30, 1995 prepared by Prairie Wireline Service.

Objector's Exhibit OT2 is one-page copy of a 26 April, 2004, letter to Andy Brummond’s attention from Victor Thomson.

PRELIMINARY MATTERS

Prior to the hearing the Parties filed a Joint Statement Of Statutory Permitting Criteria To Be Addressed At The Hearing And Stipulated Facts with the Hearing Examiner. Therein the Parties agreed that physical and legal availability of water, and adverse affect on water rights of

prior appropriators are criteria to be addressed at the hearing. In addition, Objector Thomson indicated that he will raise the adequacy of the means of diversion and water quality of a prior appropriator criteria. The Parties stipulated that Leiningers have a possessory interest in the property where the water will be put to use under this application, and that Objector Thomson is the holder of Ground Water Certificate No. 41S 113655-00 and has standing to object to this Application; and that Objector Gilkey Farms, Inc., is the holder of Ground Water Certificate No. 41S 3004954 and has standing to object to this Application.

The Hearing Examiner, having reviewed the record in this matter and being fully advised in the premises, does hereby make the following:

FINDINGS OF FACT

General

1. Application for Beneficial Water Use Permit 41S 30005803 in the name of and signed by William and Wendy Leininger was filed with the Department on April 9, 2003. (Department file)

2. The Environmental Assessment (EA) prepared by the Department for this application and dated September 30, 2003, was reviewed and is included in the record of this proceeding.

3. In the application and as noticed, the Applicant sought to appropriate 180 gpm up to 186.36 acre-feet of water per year from ground water. The water is to be diverted by a well located in the NE¼NE¼NW¼ of Section 25, Township 20 North, Range 16 East, Fergus County, Montana. The proposed period of diversion is January 1 to December 31 inclusive. The proposed uses include: 1) geothermal heating at 20 gpm up to 18.74 acre-feet and a period of use from September 1 to May 31 inclusive; 2) irrigation, 180 gpm up to 167.62 acre-feet for irrigation of 85.3 acres, with a period of use from March 16 to November 10 inclusive. The proposed place of geothermal heating use is in the NE¼NE¼NW¼; the proposed place of irrigation use is 68.3 acres in the NW¼, and 17.0 acres in the W½ W½NE¼, all in Section 25, Township 20 North, Range 16 East, Fergus County, Montana. (Department file)

4. A public notice describing facts pertinent to this application was published in the *Lewistown News-Argus*, a newspaper of general circulation on October 15, 2003, and was mailed to persons listed in the Department file on October 10, 2003. (Department file)

5. Applicant amended the application on April 18, 2005, as follows: 1) The maximum flow rate is reduced from 180 gallons per minute (gpm) to 150 gpm; 2) The maximum volume is reduced from 186.36 AC-FT to 121.4 AC-FT; 3) The maximum number of acres is reduced from

85.3 to 68.5; 4) The volume of water for geothermal hearing is reduced from 18.74 AC-FT to 8.0 AC-FT; 5) The period of use for geothermal heating is reduced from September 1 to May 31 to November 11 to March 14; 6) The volume of water for irrigation is reduced from 167.62 AC-FT to 113.4 AC-FT; 7) The irrigation period of use was not amended, but the plan of operation was revised to implement a 45-day irrigation cycle consisting of 30 days of irrigation use at a maximum flow rate of 150 gpm, followed by 15 days where the well is shut-in. I note that Applicant's amendment document states on page two that: "…the actual period of use for irrigation remains the same (March 15 to November 10), the proposed plan of operation…." However, both the Application and Public Notice indicate the irrigation period of use is March 16 to November 10 inclusive . The proposed irrigation period of use is as was applied for and noticed, March 16, to November 10 inclusive. (Department file)

6. As amended, Applicant seeks to appropriate up to 121.4 acre-feet of water per year from ground water. The water is to be diverted by a well located in the NE¼NE¼NW¼ of Section 25, Township 20 North, Range 16 East, Fergus County, Montana. The proposed period of diversion is January 1 to December 31 inclusive. The proposed uses include: 1) geothermal heating at 20 gpm up to 8.0 acre-feet and a period of use from November 11 to March 14 inclusive; 2) irrigation at 150 gpm up to 113.4 acre-feet for irrigation of 68.5 acres, with a period of use from March 16 to November 10 inclusive. The irrigation use is limited to 30 days of irrigation within each 45 day period. The proposed place of geothermal heating use is in the NE¼NE¼NW¼; the proposed place of irrigation use is 55.5 acres in the NW¼, and 13.0 acres in the W½ W½NE¼, all in Section 25, Township 20 North, Range 16 East, Fergus County, Montana. (Department file)

7. Applicant filed a Notice of Amendment on April 18, 2005, which modified the application. The modified application is a subset of the initial application that was described in the public notice. As a result of communication with Gary Knudson, Delta Engineering, and a thirty-day test conducted by the Applicant himself, Applicant amended the Application to address the concerns expressed by Mr. Knudson and make use of what was learned in the thirty-day test – that the well would flow for thirty days. (Department file, testimony of William Leininger)

8. Contained in the Notice of Amendment is the plan of operation. Applicant plans to implement a 45-day irrigation cycle consisting of 30 days of irrigation use at a maximum flow rate of 150 gpm, followed by 15 days where the well is shut-in. (Department file, testimony of William Leininger).

9. Objector Gilkey's well is approximately 0.7 miles from the Applicant's well, and Objector Gilkey has a water right for 5.74 acre-feet per year for the well (Ground Water Certificate No. 41S 30004954). Objector Thomson's well is approximately 4.4 miles from the Applicant's well, and Objector Thomson has a water right for 8.53 acre-feet per year for the well (Ground Water Certificate No. 41S 113644-00). (Department file, Exhibit A4)

Physical Availability

10. Applicant's well is completed to a depth of 2700 feet below ground surface (ft bgs). The well has 7-inch diameter casing from ground surface down to 2327 ft bgs, and 4.5-inch diameter casing from 2291 to 2700 ft bgs. The well is drilled through the Second and Third Cat Creek Sands in the lower portion of what is known as the Kootenai Formation. The upper portion of the Kootenai Formation is generally non-productive, while the lower portion (Second and Third Cat Creek Sands) tends to be more productive. Upon completion, the well flowed an estimated 250 gpm and had a static wellhead pressure between 190 and 200 pounds per square inch (psi). (Department file, testimony of Joel Adams)

11. Applicant conducted a 10-day aquifer test from March 31 to April 10, 2004. The well was allowed to flow at an average rate of 157 gpm while data were collected at Applicant's well and the Gilkey well. Following the 10-day flow period, the well was shut in and the wellhead pressure recovered to 99% of the pre-test static pressure within 10 days. The pressure recovery data collected from Applicant's well were analyzed, and the transmissivity and storativity were estimated from the pressure drawdown response in the Gilkey well. These aquifer parameters were used to project water levels into the future, and they indicate that there may be sixty-one feet of drawdown at the end of the irrigation season, and fifteen feet of residual[1] drawdown in the Gilkey well after a season's cyclic pumping (See Finding of Fact No. 8 above) use. However, there is sufficient pressure head and depth of water in the 2700 foot deep well so water is available at residual drawdowns of this magnitude. Water is physically available in the amount requested for the period requested. (Department file, testimony of Joel Adams)

Legal Availability

12. Applicant has provided an analysis of the evidence on physical water availability and the existing legal demands. Applicant summed the existing uses from the Kootenai aquifer within the area of influence (5 mile radius, See Exhibit A4) in the aquifer as a result of the combined

[1] Residual drawdown is drawdown left over at the end of a time period (here, a year) and is equal to the amount of drawdown that is not recovered.

total water demand. The annual volume of existing legal demands is 30.62 acre-feet, and the proposed total demands are 152.02 acre-feet (Applicant, Boyce, Gilkey, Thomson). The potential effects on the nearest well completed in the formation, the Gilkey well, include a 61 foot drawdown (26.4 pounds per square inch [psi] reduction in pressure) at the end of the 240 day irrigation season, and a possible 15 feet per year rate of progressive drawdown if full pressure recovery does not occur under Applicant's proposed operation plan. The rate and amount of any progressive drawdown will depend upon the length of the recovery period each year, and whether the Kootenai aquifer reaches a new state of equilibrium between discharge from and recharge to the aquifer. The Gilkey well has 400 feet of head above ground level and 800 feet of head below ground level for a total of approximately 1200 feet of available drawdown. Applicant's plan should allow approximately eighty (80) years[2] of water for nearby appropriators to exercise their prior rights. However pumps may have to be installed to do so. See Finding of Fact No.14 below. Based on existing use in the vicinity of the Applicant's well and the available drawdown in the nearest well, I find by a preponderance of the evidence that there is water legally available in the amount requested for the period requested. (Department file, testimony of Joel Adams)

Adverse Effect

13. Applicant plans to implement a 45-day irrigation cycle consisting of 30 days of irrigation use at a maximum flow rate of 150 gpm, followed by 15 days where the well is shut-in. This cycle will decrease the effective flow rate from 150 gpm to 107 gpm and thus reduce drawdowns in other appropriators' wells. (Department file, testimony of William Leininger, Joel Adams)

14. The three wells (Gilkey, Boyce, Thomson) nearest to Applicant's are completed at depths similar to the Applicant's well. The potential effects on the nearest well completed in the formation, the Gilkey well, include a 61 foot drawdown (26.4 pounds per square inch [psi] reduction in pressure) at the end of the 240 day irrigation season, and a possible 15 feet per year rate of progressive drawdown if full pressure recovery does not occur. The rate and amount of any progressive drawdown will depend upon the length of the recovery period each year, the effects of any aquifer boundary conditions encountered, and whether the Kootenai aquifer reaches a new state of equilibrium between discharge from and recharge to the aquifer. An increase in recharge could come from the Swift aquifer, located beneath the Kootenai

[2] 1200 ' (400' above ground level plus 800 ' below ground level) divided by 15' per yr ≈ 80 yrs

aquifer. The Swift aquifer currently provides some vertical recharge to the Kootenai aquifer. The Gilkey well has 400 feet of pressure head above ground level and 800 feet of below ground level head, or a total of approximately 1200 feet of available drawdown. If progressive drawdown continues at the rate of 15 feet per year, there would be approximately 26 years[3] of available drawdown before the Gilkey well no longer flows at the surface and pumps may have to be installed. Wells further away from Applicant's well may be affected by the proposed use, but the magnitude of the effects would be less than those in the closest Gilkey well. Fifteen feet of drawdown in the Gilkey well amounts to fifteen (15) feet in Applicant's well[4]. See Department Exhibit 1 on page 15. Applicant's cyclic pumping plan to minimize aquifer effects along with the control valve on the wellhead, demonstrates that the proposed use can be controlled so water is available to satisfy the water rights of prior appropriators. (Department file, testimony of Joel Adams, Russell Levens' post hearing Department Exhibit 1)

15. Objectors are concerned that the long-term effects of the use of water proposed by Applicant are unknown. Applicant's expert agrees that his predictions are valid for at least one year. Predictions beyond a year become less accurate the further out into the future one goes. Mr. Adams does not see that there will be adverse affects beyond a year with what he knows now about the aquifer and the uses made from the aquifer. He believes the wellhead pressure should be monitored to help recognize changes to allow the Applicant to make appropriate and timely adjustments in the use. Applicant intends to monitor the well pressure of his well development because there is little historical existing information about the water in the Kootenai Formation. Applicant's monitoring records will serve to record impacts of Applicant's water use on the aquifer and allow the Applicant to make any necessary adjustments to their use. Applicant has the capability to stop and shut down its use if prior appropriators cannot reasonably exercise their water rights. Records of pressure at Applicant's wellhead will serve to identify any aquifer boundary conditions encountered, whether the Kootenai aquifer reaches a new state of equilibrium between discharge from and recharge to the aquifer, or whether the rate of progressive drawdown exceeds fifteen (15) feet per year (15 feet head = 6.5 psi head)[5]. Based on uncontradicted data and projections on drawdown provided by the Applicant (See Finding of Fact No. 14 above), I find by a preponderance of the evidence that there will not be

[3] 400' above ground level divided by 15' per yr ≈ 26.6 yrs

[4] Post hearing the Hearing Examiner asked the Staff Expert to estimate the progressive increase in drawdown in the Leininger well when it is 15 ft in the Gilkey well? Mr. Levens' response was 15 feet as shown on Exhibit No. 1 to this Proposal. Exceptions to the Staff Expert's estimation may be lodged in an exception to the proposal for decision.

[5] 1 psi head = 2.307 feet of head

an adverse effect on prior appropriators within the period within which the applicant seeks to appropriate water. (See Finding of Fact Nos. 14, 16; testimony of Joel Adams, William Leininger).

16. Objectors are concerned that they may have to install pumps to exercise their water rights if Applicant's permit is granted causing a reduction in pressure at their wells. A reduction in wellhead pressure will result in decreased well flows in area wells, and flows will eventually reach zero at ground surface when the wellhead pressure reaches zero. However, zero flow at ground surface leaves the depth of water in the casing available to the well user if a pump is installed. Objectors contend that a reduction in flow caused by Applicant to something less than that which they have acquired naturally to date is an adverse affect on their water right. However, Applicant's plan should allow approximately eighty (80) years[6] of water for nearby appropriators to exercise their prior rights; however, a pump would likely need to be installed at some point. (See Finding of Fact No.14 above) I do not consider this drop in pressure or drawdown to be an adverse effect. (Department file, testimony of William Leininger, Joel Adams)

Adequacy of Appropriation Works

17. Applicant's well was drilled by a licensed driller. The well has been cemented to prevent flow outside the casing to the surface and between aquifers, and has a control valve. The Second Cat Creek and Third Cat Creek are zones within the Kootenai aquifer and are not two aquifers. Thus, the well annulus between these two zones does not need to be sealed to prevent intermixing of water between the Second Cat Creek and Third Cat Creek zones. Objectors did not submit any evidence regarding the adequacy of the diversion works. I find that the proposed means of diversion, construction, and operation of the Applicant's appropriation works are adequate. (Department file, testimony of William Leininger, Joel Adams)

Beneficial Use

18. Uncontradicted evidence of the Applicant demonstrated that the proposed irrigation purpose is beneficial. Late, normal, and early season irrigation is beneficial to crops. The flow and volume of water requested are the minimum amount necessary for the proposed beneficial use. (Department file, testimony of William Leininger)

19. Uncontradicted evidence of the Applicant demonstrated that the proposed geothermal heating purpose is beneficial, and the flow and volume of water requested are the minimum

[6] 1200 ' (400' above ground level plus 800 ' below ground level) divided by 15' per yr ≈ 80 yrs

amount necessary for the proposed beneficial use. (Department file, testimony of William Leininger)

20. Applicant is not applying to use the geothermal water for irrigation after removal of the geothermal qualities. Instead the water will be land applied to a ¾ mile long shelter belt on each side of Applicant's road to get rid of the water without discharging it into a surface water source. No water right is requested for the geothermal water land applied after its geothermal qualities have been removed. (Testimony of William Leininger)

Possessory Interest

21. Applicant is the owner of the property which has been designated in the Application as the place of use. (Department file, testimony of William Leininger)

Water Quality Issues

22. One objection relative to water quality was filed against this application. No objections relative to water classification, or to the ability of a discharge permit holder to satisfy effluent limitations of his permit were filed against this application. (Department file)

23. The water quality of other well appropriators will not be adversely affected because Applicant's well and other wells in the area are producing from similar zones within the aquifer, so ground water quality will not change. (Testimony of Joel Adams)

24. Applicant does not intend to place the used geothermal water into a local surface water source. Instead, the water will be land applied to their shelterbelt which is ¾ miles long on each side of Applicant's road. The land applied water will not flow off Applicant's land into a local surface water source. The water quality of area surface water sources will not be affected by the geothermal discharge water. (Testimony of William Leininger)

Based on the foregoing Findings of Fact and the record in this matter, the Hearing Examiner makes the following:

CONCLUSIONS OF LAW

1. The Department has jurisdiction to issue a provisional permit for the beneficial use of water if the applicant proves the criteria in Mont. Code Ann. §85-2-311 by a preponderance of the evidence. Mont. Code Ann. §85-2-311(1).

2. A permit shall be issued if there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate; water can reasonably be

considered legally available during the period in which the applicant seeks to appropriate, and in the amount requested, based on an **analysis** of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water; the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state reservation will not be adversely affected based on a consideration of an applicant's **plan** for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied; the proposed means of diversion, construction, and operation of the appropriation works are adequate; the proposed use of water is a beneficial use; the applicant has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use; and, if raised in a valid objection, the water quality of a prior appropriator will not be adversely affected, the proposed use will be substantially in accordance with the classification of water, and the ability of a discharge permitholder to satisfy effluent limitations of a permit will not be adversely affected. Mont. Code Ann. §85-2-311 (1) (a) through (h).

3. A public notice containing the facts pertinent to the permit application must be published once in a newspaper of general circulation in the area of the source and mailed to certain individuals and entities. Mont. Code Ann. §85-2-307. (See Finding of Fact No. 4 above) Modifications to an application may be considered in a proceeding previously publicly noticed so long as other appropriators are not prejudiced, regardless of whether the other appropriators are parties to the case. If the proposed modification to the application suggests an increase in the burden on the source beyond that identified in the notification of the application as originally proposed, that could cause prejudice. Lack of complete notice means that persons potentially affected by the change could be given insufficient information to determine the likelihood of whether they would be adversely affected. See In the Matter of the Application for Beneficial Water Use Permit 76161-s76G by Ed Janney, Proposal for Decision (1992); In the Matter of the Application for Beneficial Water Use Permit No. 24591-g41H by Kenyon-Noble Ready Mix Co., Proposal for Decision (1981).

Here, the modified application is a subset of the original application. (See Findings of Fact Nos. 3, 4, 5, 6, 7, 8 above.) Therefore, parties to the case are not prejudiced. The modification does not increase the burden on the source beyond that identified in the public notice; therefore, other appropriators are not prejudiced and the amended application does not have to be noticed according to Mont. Code Ann. §85-2-307.

4. The Applicant has proven that water is physically available at the proposed point of diversion in the amount Applicant seeks to appropriate. Mont. Code Ann. §85-2-311(1)(a)(i). See Finding of Fact Nos. 10, 11.

5. The Applicant has proven that water can reasonably be considered legally available during the period which the Applicant seeks to appropriate in the amount requested. To comply with Mont. Code Ann. § 85-2-311(1)(a)(ii), applicant must prove that, at least in some years, sufficient unappropriated water will be physically available at the point of diversion to supply the amount requested throughout the period of appropriation, and that at least in some years, no legitimate calls for water will be made on him by a senior appropriator. See In the Matter of Application No. 41U 106673 by Stephen Kellogg, Final Order (2001); See In the Matter of Application No. 41C-11339900 by Three Creeks Ranch of Wyoming, LLC, Final Order (2002) . Here, the record shows water will be available for many years in amounts sufficient for all uses. Mont. Code Ann. §85-2-311(1)(a)(ii). See Finding of Fact No. 12.

6. The Applicant has proven that the water rights of prior appropriators under existing water rights, certificates, permits, or state reservations will not be adversely affected when conditioned according to Applicant's plan which limits irrigation water use to 30 days followed by a 15-day recharge period, and when Applicant is required to monitor water pressure in the aquifer. Pressure must be recorded immediately prior to irrigation startup and prior to irrigation shutdown in the Applicant's operation plan to assure the estimated rate of progressive drawdown is not exceeded. All Parties submitted post-hearing briefs on whether pump installation by the Objectors, if required to exercise their water right because of reduced pressure in the aquifer, is reasonable or if pump installation would be an adverse affect. The briefs cited Department hearing orders and non-Montana case law. The Applicant argued that a reduction in artesian pressure does not constitute an adverse effect on Objectors because Mont. Code Ann. §85-2-401 allows a junior appropriator to affect water pressures. Thomson argues that §85-2-401 applies only to change authorizations requested under §85-2-402, and that the expense Thomson will incur if his artesian well pressure is reduced to such an extent that he must install a pump to continue to exercise his water right is an adverse effect on his water right. Gilkey argues there is a balancing test which compares the value of the water appropriated by the junior to the costs to the senior, and that junior appropriators must pay for improvements needed to senior appropriators' diversions to allow them to continue to exercise their water right citing out of state cases. The Hearing Examiner found no Montana Supreme Court case on point. Here, the record shows that senior appropriators will have water available for their use,

albeit likely at a reduced pressure, and which may need to be pumped for their rights to be exercised. Department hearing order precedent is that artesian pressure is not protectable and a reduction by a junior appropriator is not considered an adverse effect. See In re Application No. 72948-G76L by Cross, Final Order (1991); In re Application No. 75997-G76L by Carr, Final Order (1991). Mont. Code Ann. §85-2-311(1)(b). Here, the Objectors will have water available for their use without a pump for years to come, but likely at a reduced pressure. If and when they can no longer exercise their water rights without a pump, senior appropriators may seek a determination that they cannot reasonably exercise their water rights from a district court. See Finding of Fact Nos. 13, 14, 15, 16.

7. The Applicant has proven that the proposed means of diversion, construction, and operation of the appropriation works are adequate. Sealing of the annular space[7] between zones within an aquifer is not required. See Mont. Admin. R. 36.21.634 and 36.21.658. However, the well must be maintained and controlled to prevent waste of water. Mont. Code Ann. §85-2-505 and §85-2-311(1)(c). See Finding of Fact No. 17.

8. The Applicant has proven the proposed uses of water are beneficial uses of water for which Applicant can establish a water right under a permit, and the amounts requested are the minimum necessary for the proposed beneficial uses. Mont. Code Ann. §85-2-311(1)(d). See Finding of Fact Nos. 18, 19.

9. The Applicant has proven a possessory interest in the property where water is to be put to beneficial use. Mont. Code Ann. §85-2-311(1)(e). See, Finding of Fact No. 21.

10. The Applicant has proven that there will be no adverse effect on the water quality of a prior appropriator. Mont. Code Ann. §85-2-311(1)(f), (g), (h). See, Finding of Fact Nos. 22, 23, 24.

11. The Department may issue a permit subject to terms, conditions, restrictions, and limitations it considers necessary to satisfy the criteria for issuance of a beneficial water use permit. Applicant has met the criteria for issuance of a permit when conditions are applied. Mont. Code Ann. §85-2-312. See Conclusions of Law Nos. 6, 7.

WHEREFORE, based upon the foregoing Findings of Fact and Conclusions of Law, the Hearing Examiner makes the following:

[7] Annular space ("annulus") means the space between a drill hole and a casing pipe, or between two well casings. Mont. Admin. R. 36.21.634 (3).

PROPOSED ORDER

Subject to the terms, conditions, restrictions, and limitations listed below, Beneficial Water Use Permit No. 41S 30005803 is **ISSUED** to William and Wendy Leininger to appropriate up to 121.4 acre-feet of water per year from ground water. The water is to be diverted by a well located in the NE¼NE¼NW¼ of Section 25, Township 20 North, Range 16 East, Fergus County, Montana. The period of diversion is January 1 through December 31, exclusive of March 15. The permitted uses are: 1) geothermal heating at 20 gpm up to 8.0 acre-feet and a period of use from November 11 to March 14 inclusive; 2) irrigation at 150 gpm up to 113.4 acre-feet for irrigation of 68.5 acres and a period of use from March 16 to November 10 inclusive. The place of geothermal heating use is in the NE¼NE¼NW¼; the place of irrigation use is 55.5 acres in the NW¼, and 13.0 acres in the W½ W½NE¼, all in Section 25, Township 20 North, Range 16 East, Fergus County, Montana.

A. The irrigation use is limited to 30 days of irrigation followed by 15 days of non-use within each 45 day irrigation cycle during the period of use.

B. This right is subject to section Mont. Code Ann. §85-2-505, MCA, requiring all wells be constructed so they will not allow water to be wasted or contaminate other water supplies or sources, and all flowing wells shall be capped or equipped so the flow of the water may be stopped when not being put to beneficial use.

C. The appropriator shall install a pressure monitoring device approved by the department to measure hydrostatic pressure of the aquifer at the wellhead. During irrigation use the records must be taken in the aquifer immediately prior to irrigation startup and immediately prior to irrigation shutdown as specified in the Applicant's operation plan, and at any zero pressure or non-flowing conditions. During non-irrigation use, the measurements must be taken at the beginning of use and monthly thereafter. The use to which the water is put must be recorded for each measurement. The appropriator shall submit the records by November 30 of each year and upon request at other times during the year. Failure to submit reports may be cause for revocation of a permit or change. The records must be sent to the Lewistown Water Resources Regional Office. The appropriator shall maintain the pressure monitoring device so it always operates properly and measures pressure accurately.

D. If the rate of progressive or residual drawdown exceeds 15 feet or 6.5 pounds per square inch per year, Permittee must stop pumping.

E. The Permittee must discharge the geothermal water to a land application such that it does not flow into a local surface water source.

NOTICE

This Proposal for Decision may be adopted as the Department's final decision unless timely exceptions are filed as described below. Any party adversely affected by this Proposal for Decision may file exceptions and a supporting brief with the Hearing Examiner and request oral argument. Exceptions and briefs, and requests for oral argument must be filed with the Department by January 26, 2006, or postmarked by the same date, and copies mailed by that same date to all parties. No new evidence will be considered.

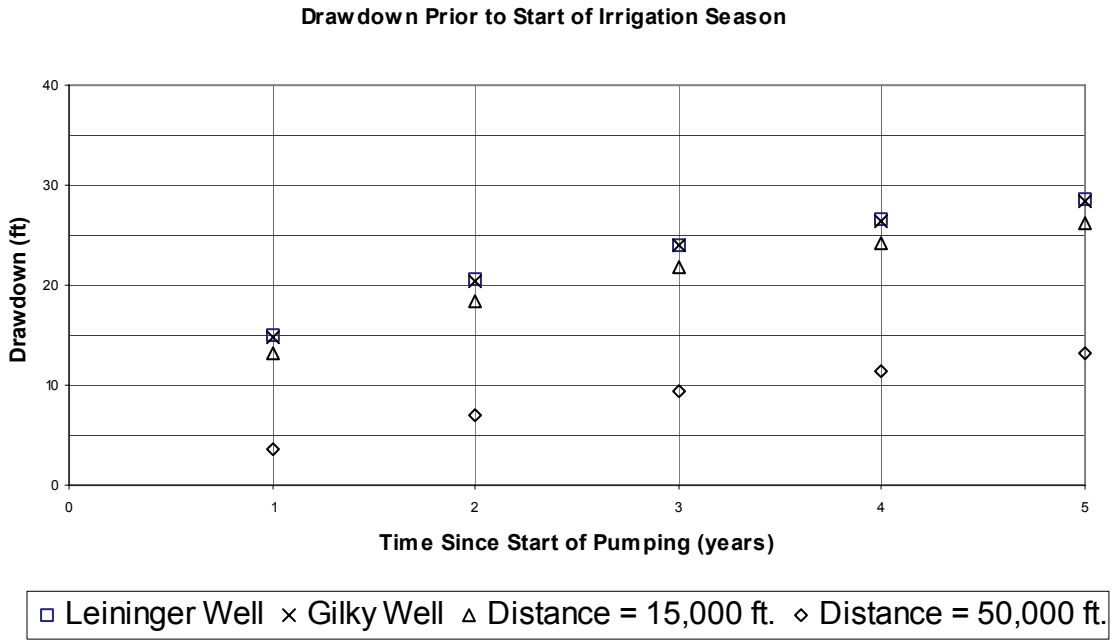
No final decision shall be made until after the expiration of the above time period, and due consideration of *timely* oral argument requests, exceptions, and briefs.

Dated this 6th day of January 2006.

/ Original Signed By Charles F Brasen /

Charles F Brasen
Hearings Officer
Water Resources Division
Department of Natural Resources
and Conservation
PO Box 201601
Helena, Montana 59620-1601

Hearing Examiner Brasen requested that I estimate the amount that drawdown in the Leininger well would increase progressively if a new state of equilibrium between discharge and recharge is not reached. Mr. Adams predicted that the drawdown in the Gilkey well would increase progressively at a rate of 15 feet per year. To determine the progressive rate of increase in the Leininger well, I input the estimates of aquifer properties presented by Mr. Adams (transmissivity = 117 ft^2/day and storativity = 5.8 x 10^{-5}) and an average flow rate of 107 gpm to the computer software Aqtesolv. In Aqtesolv, I executed a forward solution using the Theis confined aquifer solution and recorded the drawdown immediately before the start of the irrigation season for a five-year period (see graph). The estimated progressive increase of drawdown in the Leininger well before the start of the second season of irrigation is slightly greater than that in the Gilkey well, but still approximately 15 feet. The reliability of these estimates decreases rapidly with time, however the estimate of approximately 15 feet progressive increase of drawdown in the Leininger well at the beginning of the second irrigation season is reasonable. The Theis solution predicts drawdown in a uniform infinite aquifer with no leakage from aquifers that lie either below or above the production aquifer. Drawdown will be greater if the aquifer is not infinite or the transmissivity decreases with distance. In contrast, drawdown will be less if there is leakage from other aquifers.



Department Exhibit No. 1

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the PROPOSAL FOR DECISION was served upon all parties listed below on this 6th day of January 2006 by first class United States mail.

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CC:

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(Hand Delivered)
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/ Original Signed By Susan Russell /

SUSAN RUSSELL
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